

REMARKS

Claims 1-13 remain in the application as filed. No new matter is added by the amendments to the specification.

The Rejections:

In the Office Action dated November 1, 2005, the Examiner objected to Figs. 1 and 2 of the drawings under 37 CFR 1.83(a) because they fail to show the "... the brake element such as a drum 14 ..." as described in the specification. The item depicted appears to be that of a disk or similar and not in keeping with "... an integral portion of the elevator car drive braking system which may be in the form of the system illustrated and described in US Patent 5,971,109 ..." That system includes a disc brake that is engaged by interlinking components including an actuator incorporating a lever.

The Examiner stated that the attempt to incorporate subject matter into this application by reference to the braking system of Aulanko et al. (US 5,971,109) (herewith referred to as "Aulanko") is ineffective because the specified brake drum with attached lever mechanism, as referenced in the aforementioned objection to Figs. 1 and 2 is not reflected in the disclosure of Aulanko. The Examiner further stated that the device as depicted in Figs. 1 and 2 lacks detail to enable the reader to discern a viable, definitive device in view of the referenced technology of Aulanko.

The Examiner rejected Claims 1-13 under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The Examiner stated that the claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. According to the Examiner, the primary matter in question regards the specified brake element to which a handle is attached has not been described in the specifications in view of the Aulanko reference. Furthermore, the term "self locking" is unclear, in that it has not been defined.

The Examiner rejected Claims 1-10 under 35 U.S.C. 102(b) as being anticipated by Mitsubishi (EP 1,148,018). Regarding Claim 1, the Examiner stated that Mitsubishi discloses an elevator drive brake element (41) rotatable between a brake reset and brake released position, a

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handle (18a) attached to brake element for moving between the locked and unlocked positions thereby placing brake in the rest and released positions, and a selectively operated locking means (46) for maintaining said handle in said locked position. With respect to Claims 3 and 10, the Examiner stated that the Mitsubishi handle (18a) includes an elongate arm having an end affixed, thereby connected, to said brake element (41).

The Examiner rejected Claims 2, 4, 7, 9, and 12 under 35 U.S.C. 103(a) as being unpatentable over Mitsubishi in view of Lee (1,479,305).

Regarding Claim 2, the Examiner stated that whereas Mitsubishi provides an elongate arm, Lee teaches "... a lever 20 which is adapted to be reciprocated..." as well as a "... lock casing 6 ... formed with a substantially rectangular extension 21 which is adapted to project into and be located within a similarly shaped slot 22 in the lever 20" (Pg. 1 Line 108), thereby teaching a locking means including a latching plunger (21) and an aperture (22) for receiving said latching plunger. Therefore, according to the Examiner, it would have been obvious to one of ordinary skill in the art to modify Mitsubishi for the incorporation of such latching means or similar "... in principal and structure to a standard residential or commercial door latch mechanism..." as taught by Lee.

With respect to Claim 4, the Examiner stated that Lee teaches an elongate arm (21) with aperture (22) for receiving said latching plunger (21).

Pursuant to Claims 7 and 12, the Examiner stated that Lee discloses a locking means including a key actuated lock cylinder (6) for selectively releasing said handle from said locked position.

Regarding Claim 9, the Examiner stated that whereas Mitsubishi discloses an elevator drive brake element (41) rotatable between a brake reset and brake released position, a handle (18) attached to brake element for moving between the locked and unlocked positions, thereby placing brake in the rest and released positions, and a selectively operated locking means (46) for maintaining said handle in said locked position, Lee teaches a handle (20) with a latch receiving aperture (22) as well as a latching plunger (21) releasably engaging said latch receiving aperture when the handle is in the locked position. Therefore, according to the Examiner, it would have been obvious to one of ordinary skill in the art to modify Mitsubishi with the teachings of Lee to provide a conventional means to secure the handle in its locked position.

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The Examiner rejected Claims 5, 6, and 11 under 35 U.S.C. 103(a) as being unpatentable over Mitsubishi in view of Lee, and further in view of Sterling (4,135,746). With respect to Claim 5, the Examiner stated that though Lee teaches a latching plunger (21) and an aperture (22) for receiving said latching plunger, and the elongate arm (18a) of Mitsubishi has a leading edge, the plunger of Lee does not enable the actuating of said latching plunger by a leading edge portion. The Examiner further stated that Sterling, for instance, teaches a conventional latching plunger with "... wedge shape latch engaging nose portion 100 of the latching element ... distinguished by a generally triangular shaped plan profile" and a "... latching element spring 94..." (Col. 6, Lines 55 and 67 respectively), whereby actuation of the latching plunger upon contact of with a leading edge of a stationary door jamb or strike is achieved. According to the Examiner, though the invention of Sterling incorporates features unique to typical latching plungers, the features common to conventional household or commercial latching plungers are nevertheless presented and, therefore, it would have been obvious to one of ordinary skill in the art to modify the device of Mitsubishi with the teachings of Lee and Sterling, whereby the latching plunger of Lee would incorporate the teachings of Sterling to enable its actuation by a leading edge, to provide a product of adequate quality in terms of performance and market (operator) expectations.

Regarding Claims 6 and 11, the Examiner stated that though neither the cross-sectional form of the elongate arm of the Mitsubishi handle (18a) nor Lee handle (20) is defined, i.e. circular, squared or triangular, Sterling teaches a latching plunger in contact with a doorjamb or strike and in that a strike as used "... in a standard residential or commercial door latch mechanism..." has a curved or rounded contour along the leading edge for contact with the latching plunger, it would have been obvious to modify the Mitsubishi handle with a rounded contour for contacting said latching plunger of the teachings of Lee and Sterling in order to provide a striking surface angled in the direction of the recess of the latching plunger and thereby minimize the potential for jarring and promote proper actuation of the latching plunger.

The Examiner rejected Claim 8 under 35 U.S.C. 103(a) as being unpatentable over Mitsubishi in view of Aulanko and Kiekert AG (5,722,706). The Examiner stated that as Mitsubishi discloses a locking means with the handle in the locked position, and Aulanko discloses ... a detector 71 indicating ... functional status, which detector can be connected to the

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elevator control system" (Col. 3, Line 29), Kiekert teaches a latch with position-sensing switch in which, "A switch 5 ... mounted in the bolt assembly... and connected to the electronic control system..." and that "... switch 5 has an actuation button 12 movable in the closing direction (Col. 3, Lines 48 and 50 respectively). Therefore, according to the Examiner, in light of modern control systems, it would have been obvious to one of ordinary skill in the art to modify the Mitsubishi locking mechanism to accommodate the teachings of Aulanko and, in particular, Kiekert to provide a safety switch mechanism to confirm that the handle is in a locked position.

The Examiner rejected Claim 13 under 35 U.S.C. 103(a) as being unpatentable over Mitsubishi in view of Lee, and further in view of Kiekert. The Examiner stated that as Mitsubishi discloses a pivoting handle that can be in the locked position and Lee discloses the locking means utilizing a latching plunger, Kiekert discloses a position-sensing switch (5) with an actuation button (12) integral to a locking mechanism. According to the Examiner, it would have been obvious to modify the locking means of Mitsubishi in view of Lee to incorporate the safety switch as taught by Kiekert, because of the control protocols of modern elevator systems in which safety interlocks of drive systems are the norm.

The Cited References:

Mitsubishi shows a maintenance operation panel 10 including a brake release device 17 having a detachable operating arm 18a. An operating arm receiver 41 is pivotally mounted on an operating shaft 42 and an action pin 43 is connected to a wire 44. A stopper pin 46 stops the rotation of the operating arm receiver 41 in one direction.

Lee shows an automobile lock with a lock casing 6 and a lever 20 mounted on a spindle 19. An extension 21 of the casing 6 engages a slot 22 in the lever 20 to lock the lever in position.

Sterling shows a latch bolt assembly for interior door latches or locks.

Aulanko shows a manually activated elevator brake release device with a detector 71 indicating the functional status of the releasing device.

Bartel shows a motor-vehicle door latch with a position sensing switch 5.

The Response:

Applicant amended the specification to change "drum" to "disk". Applicant concedes that the brake element 14 shown in Figs. 1 and 2 looks more like a disk than a drum. However, there is no requirement for any specific configuration for the brake element 14 since is merely required to be attached to one end of the handle 12 and mounted to rotate about the axis 16. The brake element 14 is neither a "brake drum" nor a "brake disk" as those devices are understood by one of ordinary skill in the elevator art.

Applicant is not attempting to incorporate subject matter from U.S. Patent No. 5,971,109 (Aulanko) into this application. As stated above, the brake element 14 shown in Figs. 1 and 2 is not a "brake drum" or a "brake disk". Applicant referenced Aulanko only as an example of a prior art manually activated elevator brake release device wherein the manually actuated lever could be replaced by the self locking elevator brake system according to the present invention.

The Examiner rejected Claims 1-13 under 35 U.S.C. 112, first paragraph, stating that the specified brake element to which a handle is attached has not been described in the specification in view of the Aulanko reference and, furthermore, the term "self locking" is unclear, in that it has not been defined.

Applicant's brake element 14 is described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Aulanko shows that it is known to provide the brake releasing device 58 having one end attached the actuator 59 and the other end attached to the elevator brake 3. The actuator 59 includes the lever 66 pivoted on the body 65 and connected to the mechanical power transmission element 60. Applicant's self locking elevator brake actuating element 10 replaces the Aulanko lever 66. All of the elements defined by Claims 1-13 are shown in Applicant's drawings and described in the specification.

Applicant has not assigned a special definition to the term "self locking". Applicant has used the term in the normal sense that "something locks automatically when closed". See, for example, the definition in the on-line Encarta® World English Dictionary, North American Edition.

Therefore, Applicant believes that Claims 1-13 comply with 35 U.S.C. 112, first paragraph.

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The Examiner rejected Claims 1-10 under 35 U.S.C. 102(b) as being anticipated by Mitsubishi (EP 1,148,018). Applicant's Claims 1-10 define "a handle attached to said brake element for moving between a locked position wherein said brake element is in said brake reset position and an unlocked position wherein said brake element is in said brake released position" and "a selectively operated locking means for maintaining said handle in said locked position". Mitsubishi does not show or suggest such elements.

In Mitsubishi, the operating arm 18a is not attached to the operating arm receiver 41. The operating arm 18a is only brought into engagement with the operating arm receiver 41 and is free to be removed.

In Mitsubishi, the stopper pin 46 stops the rotation of the operating arm receiver 41 in one direction, but does not lock either the operating arm receiver 41 or the operating arm 18a in a locked position. The operating arm receiver 41 is free to rotate away from the stopper pin 46 and the operating arm 18a is not even contacted by the stopper pin 46.

In Mitsubishi, the stopper pin 46 doesn't contact the operating arm receiver 41 when the operating arm receiver 41 is in the brake reset position". Only when the operating arm receiver 41 moves to the "brake released position" does it contact the stopper pin 46. This is the opposite of the relationship of the elements in Claims 1-10.

Thus, Mitsubishi does not anticipate Applicant's Claims 1-10.

The Examiner rejected Claims 2, 4, 7, 9, and 12 under 35 U.S.C. 103(a) as being unpatentable over Mitsubishi in view of Lee (1,479,305).

Lee shows an automobile lock having the extension 21 of the casing 6 engaging the slot 22 in the lever 20 to lock the lever in position. However, substituting the Lee lock for the Mitsubishi stopper pin 46 does not result in the claimed self locking elevator braking system because the Mitsubishi arm 18a is not locked and the operating arm receiver 41 still would be locked in the "brake released position".

Sterling, Aulanko and Bartel also do not provide the claimed elements missing from Mitsubishi.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Examiner cited the U.S. Patent No. 5,511,633 issued to Aker and the U.S. Patent

No. 6,917,453 for the purpose of reference. Applicant reviewed these references and found them to be no more pertinent than the prior art relied upon by the Examiner in the rejections.

In view of the amendments to the claims and the above arguments, Applicant believes that the claims of record now define patentable subject matter over the art of record. Accordingly, an early Notice of Allowance is respectfully requested.

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